Background	The beef industry is complex. Each segment is different from the next, but they must work together to bring safe, wholesome, nutritious and delicious products to dinner tables around the world.
Seedstock	**Seedstock producers** concentrate on raising breeding animals with optimum genetics. They produce bulls, heifers, semen and embryos that meet the specific needs of others in the beef production chain.
Cows and Calves	The beef production process starts with **a cow-calf producer** who breeds animals that will produce great tasting beef. The producer considers other factors too, including desired calf characteristics and whether calves will be suitable for the environment in which they will be raised. For instance, in hot regions, Brahman cattle may be selected for their ability to withstand hot weather. Cow-calf producers raise their cattle on range or pasture land for up to a year after which many are sold to other beef cattle operations. Some producers keep their cattle on the range to produce grass-finished beef.
Auction Markets	When cattle are ready for market, many are sold through a **livestock auction market**, which transfers ownership to the next level in the production chain. These markets seek to obtain as much value as possible for the animal, bringing in many different potential buyers. There are 815 fixed auction facilities in the United States, according to the USDA.
Stocking/ Backgrounding	Some animal buyers are **stocker producers** who purchase young animals (about 6 to 10 months old, called stockers) and put them on pasture until they achieve the desired weight to move onto a feedlot. Cattle on stocker operations are usually kept for about five months, depending on the region and its growing season. Stocker producers are also referred to as **backgrounders**. USDA's Economic Research Service (ERS) defines backgrounding as the preparation of young cattle for a feedlot, getting them accustomed to new facilities and feeds.
Cattle Feeding	**Cattle feedlots** vary in size, from less than a hundred head to as many as 100,000 head. Most are located in the Midwest, Plains, Southwest and the Pacific Northwest, providing grain and roughage to animals to generate a consistently tender and flavorful beef product. Cattle are normally placed in feedlots when they are 12 to 18 months of age and remain there approximately four to six months. Feedlot owners may purchase cattle or operate a contract feedlot where the cattle are owned by stockers or cow-calf operators who maintain ownership of the animals throughout the feeding process. Some ranchers and stockers also operate their own feeding facilities. According to USDA, there were about 2,200 cattle feedlots in the United States in 2002 that had a capacity of 1,000 head or more.
Beef Packing Process	Feedlots often have marketing arrangements with meat **packing plants**, which typically purchase animals when they are 18 to 22 months of age or weigh between 1,000 and 1,250 pounds. These facilities are required to follow strict government guidelines that provide oversight for each operation. USDA inspectors are stationed in all federally inspected (FI) packing plants, overseeing the operation's safety, quality and animal welfare standards from the time animals enter the plant until individual beef products leave it. In 2004, there were 689 FI meat packing plants across the U.S. Plants that do not sell meat outside their respective states are not required to employ USDA inspectors; however, they are required to have state inspection systems that meet or exceed USDA's inspection requirements. Most packing plants fabricate or process major primal cuts (chuck, round, rib and loin) into subprimal cuts that are sold to retailers and foodservice operators. Some plants sell subprimals to **meat processing facilities** that cut subprimals into individual steaks and roasts for restaurants, or create marinated or pre-cooked items.
Meat Marketing and the Consumer	Finally, **retailers and foodservice operators** sell beef products to **consumers** in supermarkets or restaurants. These outlets are responsible for assuring the final safety and quality of the products. Ultimately, consumers dictate the actions of the beef production chain by determining what kinds of beef they want and at what price. Market signals, such as amount and types of beef purchased, start with consumers and are passed back through the production chain. Beef producers then adjust their product to meet the desires of consumers. For instance, beef cattle are much leaner than just a decade ago as a result of demand for lean products. There are now 29 cuts of beef that meet government guidelines for lean.

For more info, visit www.BeefFromPastureToPlate.org
Updated 10/2006

Brought to you by the National Cattlemen's Beef Association on behalf of The Beef Checkoff.

Beef Choices	The more than 800,000 beef producers throughout the United States offer a variety of beef choices to meet the changing lifestyles and nutritional needs of consumers. Beef producers have adapted their practices to provide consumers with the grain-fed, grass-finished, certified organic or "natural" beef they desire. While each kind of beef offers specific value to consumers, all beef is safe and nutritious.
Nutritional Value of Beef	U.S. beef is leaner than ever and is a premier, naturally nutrient-rich food, which helps consumers get more nutrients from their calories. • 29 cuts of beef (including 15 of the 20 most popular cuts) meet government guidelines for lean, like the tenderloin, sirloin and 95% lean ground beef. • Beef has eight times more vitamin B_{12}, six times more zinc and two and a half times more iron than a skinless chicken breast.
Beef Safety	All beef goes through a rigorous inspection process and is subject to strict government guidelines to ensure the highest level of safety. All cattle are inspected by a public health veterinarian before entering the packing plant and those with any signs of illness are not allowed into the food supply.
Grain-fed Beef	Grain-fed is the most widely produced type of beef by the more than 800,000 beef producers across the United States. Grain-fed cattle spend most of their lives eating grass in pastures, then move on to a feedlot where they are fed a high-energy, grain diet for four to six months.
Grass-finished Beef	All beef is grass-fed, as cattle spend the majority of their lives in pastures eating grass. However, grass-finished beef comes from cattle that have been raised on pasture their entire lives. Grass-finished cattle may be raised according to the U.S. Department of Agriculture's (USDA) National Organic Program (NOP) standards. However, grass-finished beef is not automatically considered certified organic as grass-finished cattle may be given Food and Drug Administration-approved antibiotics and/or growth promotants.
Certified Organic Beef	Beef must be from cattle that meet USDA's NOP livestock production requirements to be classified as certified organic. The Organic Foods Production Act, effective October 2002, sets the standards for all food labeled organic (http://www.ams.usda.gov/nop/FactSheets/ProdHandE.html). For beef, this means: • Cattle must be fed 100-percent organic feed, but may be given certain vitamin and mineral supplements. • Organically raised cattle may not be given hormones to promote growth or antibiotics for any reason. If an animal is sick, it cannot be denied treatment to ensure its health; however, animals treated with antibiotics must be taken out of the NOP. • All organically raised cattle must have access to pasture, but the majority of cattle in the U.S., regardless of how they are raised, meet this requirement. • Organic beef is certified through USDA's Agricultural Marketing Service (AMS). Cattle must be raised using organic management from the last third of gestation.
Natural Beef	By definition, most beef is natural. According to USDA's Food Safety and Inspection Service (FSIS), natural may be used on a label for meat if: • The product does not contain any artificial flavor or flavoring, coloring ingredient, chemical preservative or any other artificial or synthetic ingredient; and • The product and its ingredients are not more than minimally processed (FSIS Directive 7220.1 Policy Memo 55 "Natural Claims"). The government's definition of natural does not consider the manner in which animals are raised or what they are fed. Natural beef can be grain-fed, grass-finished or organic as long as it is minimally processed and contains no additives. • Some beef products may be marketed and labeled "natural" based on the specifications of the company that owns the brand, such as "raised without growth promotants and antibiotics."

For more information, visit www.BeefFromPastureToPlate.org

Updated 10/2006

Color of Cooked Ground Beef and Doneness

Many food preparers believe that visible signs, such as color changes in food are indicators that the food is safely cooked. Recent research has shown that color is not a reliable indicator of the doneness of food products like ground beef. At 160º F, a safely cooked patty may look brown, pink or some variation of brown or pink.

Q: What color changes occur when raw meat is cooked?
A: It is expected that meats such as beef will turn from a red color when raw, to various shades of pink and brown as it becomes well done. The color of cooked meat is dependent upon changes occurring in the pigments in meat. Under normal cooking, the red meat pigment (myoglobin) changes from a bright red to a brown color.

Q: So if a hamburger patty is brown inside, is it safe to eat?
A: MAYBE. Research by USDA has shown that the only way to assure the doneness of ground beef patties is to measure the internal temperature with a meat thermometer. All ground beef should be cooked to 160º F, and consumers should not rely on the color of the patty to determine doneness.

Q: Why is color not a safe indicator?
A: USDA recognizes two problems with using color to determine doneness in ground beef patties:

- Some ground beef may appear to have lost its pink color before it is fully cooked. If raw ground beef is somewhat brown already, it may look fully cooked before it reaches a safe temperature.
- Some lean ground beef may remain pink at temperatures well above 160º F.

Q: Why would patties appear brown before they reach 160º F?
A: Premature browning of ground beef occurs because of the iron component in the myoglobin pigment. Raw ground beef, freshly ground, has a dark purplish-red color. As it is exposed to air, the iron forms a complex with oxygen (to form oxymyoglobin) which gives fresh beef its bright red color.

If meat is stored for a longer period of time, is stored above recommended temperatures, or is exposed to too much air, the pigment changes to a brown color (met-myoglobin). Sometimes, when a package of ground beef is broken open, the inside may be either dark purplish-red (it will turn bright red in a few minutes) or a brownish red (due to longer storage; this color will not change).

If the ground beef is already brown, it will not change color during cooking. Research has shown that some ground beef patties look well done at 131º F.

Q: Why was my hamburger (meatloaf) still red inside, but the temperature was over 160º F?
A: There are several reasons why ground beef (and other beef cuts) may remain pink or reddish-brown at temperatures above 160º F.

- **pH of the muscle.** Some meat is less acidic than average which means it has a higher pH. Meat with higher pH can remain pink at higher temperatures as there is less myoglobin changed by the cooking process. Meat from older beef animals, bulls and even specific muscles may naturally have a higher pH.
- **Amount of pigment in the meat.** Meat from animals (bulls) has a higher concentration of pigment which results in a redder beef patty after cooking. Most store-purchased ground beef is a blend of meat from bulls, steers, cows and heifers to achieve a very specific fat content.

- **Amount of fat in the patties.** Low-fat ground beef appears to have less conduction of heat than higher fat ground beef. Lean ground beef patties take longer to cook, need a higher temperature to reach a certain internal temperature, and may maintain a pink color at temperatures above 160º F.

Q: Sometimes meat cooked in a slow cooker seems to be a reddish-brown color. I know it is well done.
A: On occasions, a reddish or pinkish-brown color may remain in well cooked meat. It can be readily seen in home-canned beef. It seems to occur most often when meat is simmered in water or braised as a pot roast where meat and vegetables are cooked together (slow cooker). Several conditions can lead to this pinkish-brown color:

- Very small amounts of nitrate, nitrite, nitrous oxide, carbon dioxide or sulfite may come in contact with the red meat pigments and form a permanent pinkish-brown color in the cooked meat.
- Some water supplies may contain nitrites. A small amount may cause color change if used to cook meat.
- Many vegetables such as beets, radishes, onions and celery naturally contain relatively high levels of nitrites and nitrates. When these vegetables are cooked with meats, a red color may be retained. This can often happen with a meatloaf mixture.
- Raw meats and poultry may react with carbon dioxide and form another red complex that is seen as a pink surface color in cooked meats. Or, a reddish band 3/8 inch wide, just below the meat surface, may occur on meat or poultry cooked on a charcoal or gas grill. This red band also comes from a reaction with carbon dioxide.

Advice for Consumers on Ground Meat

- Fresh or thawed ground meat should be used quickly. If not used, wrap tightly and freeze or store for no more than a day in a 40º F. refrigerator.
- Use an accurate instant-read meat thermometer to check internal doneness of a ground beef patty.
    - Insert a digital instant-read thermometer at least ½ inch into the thickest part of the patty.
    - Insert a dial instant-read thermometer sideways into the center of the patty, about 2 inches.
    - When a ground meat patty is cooked to 160º F throughout, it can be safe and juicy, regardless of color.

This information is from "Color of Cooked Ground Beef as It Relates to Doneness," a Technical Publication of the Food Safety and Inspection Service, USDA. For additional detail log on to www.fsis.usda.gov/OA/pubs/colortech.htm.

Iowa Beef Industry Council, Ames, Iowa

Phone: 515-296-2305 **Web:** www.iabeef.org **Email**: beef@iabeef.org.Freezer Storage Guidelines For Beef

Storage Chart

Type of Beef	Refrigerator (35F to 40F)	Freezer (0F or colder)
Steaks and Roasts	3 to 4 days	6 to 12 months
Ground Beef	1 to 2 days	3 to 4 months
Cooked Beef (leftovers)	3 to 4 days	2 to 3 months

Steaks, roasts and ground beef may be stored up to two weeks in its original packaging in the freezer without loss of quality.

If storing longer than 2 weeks, wrap tightly in aluminum foil/butcher paper and plastic freezer bags. The tighter you can seal the meat the longer it will last. Freezer burn is actually oxygen that has damaged the meat. Freezer-burnt meat is still safe to eat, but has a loss of quality.

Freezers should not be overloaded and are not intended to cool food.

If you only plan to freeze the meat, be sure to freeze as soon as possible after bringing it home to ensure maximum freshness and quality.

For more food safety tips and information go to *www.utahbeef.org*

What is *E. coli* O157:H7?	*E. coli* O157:H7 is one of hundreds of strains of the bacterium *Escherichia coli*. Although most strains of this bacterium are harmless and live in the intestines of healthy humans and animals, this particular strain produces a powerful toxin and can cause illness. The combination of letters and numbers in the name of the bacterium refers to specific genetic markers found on its surface, which distinguishes it from other types of *E. coli*. Eating food that has not been cooked sufficiently to kill bacteria such as *E. coli* O157:H7 can cause severe illness in humans.
Number of Illnesses Attributed to *E. Coli* O157:H7 Remains Low	Overall, the level of illnesses related to *E. coli* O157:H7 is on a downward trend. • Each year, the Centers for Disease Control and Prevention (CDC) tracks foodborne illnesses. In 2005, CDC reported that only 1.06 foodborne illnesses out of every 100,000 cases were associated with *E. coli* O157:H7. • Recent figures indicate that the United States is on track to reach the government's Healthy People 2010 goal for *E. coli* O157:H7. Overall, the incidence of *E. coli* O157:H7 cases declined 29 percent since the baseline of 1996-1998. • In addition to the decline of these foodborne illnesses, ground beef samples testing positive for *E. coli* O157:H7 have declined more than 80 percent between 2000 and 2004.
Commitment to Safety Research	Years ago, America's beef producers set out to reduce and eliminate *E. coli* O157:H7 and today remain committed to that goal. • The beef industry has invested approximately $400 million on beef safety research in the past decade in addition to spending $250 million in processing plant improvements and interventions. • Beef producers have invested more than $22 million in checkoff-funded beef safety research and development of methods aimed at reducing foodborne bacteria since 1993. Today, because of the research and cooperative efforts with all partners in the beef supply chain, interventions to reduce and eliminate *E. coli* O157:H7 are in place on farms, in feedlots and in packing plants across the country.
Making Progress Using Best Practices	Individuals representing each segment of the production chain meet yearly to review and update the Beef Industry Food Safety Council (BIFSCo) Best Practices, which serve as a roadmap in reducing *E. coli* O157:H7. • Individuals and companies involved in this process recognize that safety is a non-competitive issue. • These Best Practices are ever-changing documents that are updated and reviewed as scientific and technological advances are made. These resources are available free of charge at www.bifsco.org.
Tips for Preventing Foodborne Illnesses	Consumers can take important steps in the kitchen to ensure their food is safe: • Always wash hands, cutting boards, utensils and countertops with hot, soapy water before and after handling meat. • Don't cross-contaminate — separate raw meat and poultry from other foods and don't place cooked food on a plate that previously contained raw meat or poultry. • Refrigerate leftovers in shallow containers promptly after eating. • Use an instant-read meat thermometer to ensure the proper internal temperature and eliminate any harmful bacteria.
	Recommended Cooking Temperatures Poultry 165°F Ground Beef 160°F Beef Roasts and Steaks 145°F Seafood 145°F
Food Safety Questions	**USDA Meat and Poultry Hotline:** For food safety answers on topics including safe storage and handling of food, safe preparation, product dating, product content and more. The hotline is open from 10:00 a.m. to 4:00 p.m. Eastern time on weekdays year round. **Call toll-free:** 888-MPHotline (888-674-6854) **Email:** mphotline.fsis@usda.gov **Online:** http://www.fsis.usda.gov/Home/index.asp

For more info, visit www.BeefFromPastureToPlate.org
Updated 10/2006

Brought to you by the National Cattlemen's Beef Association on behalf of The Beef Checkoff.

BEEF
IT'S WHAT'S FOR DINNER

Recommended Cooking Methods for Different Cuts of Beef

BEEF CUT		SKILLET	BROIL	STIR-FRY	ROAST	GRILL	POT ROASTING/ BRAISING
Tender Steaks	Chuck Eye Steak, Boneless	✓	✓	✓		✓	✓
	Chuck Top Blade Steak, Boneless	✓	✓	✓		✓	✓
	Porterhouse Steak, T-bone Steak	✓	✓			✓	
	Round (Sirloin) Tip Center Steak	✓	✓	✓		✓	
	Round Tip Steak, thin cut	✓		✓			
	Rib Steak, Ribeye Steak	✓	✓	✓		✓	
	Shoulder Center Steak	✓	✓	✓		✓	
	Shoulder Top Blade (Flat Iron) Steak	✓	✓	✓		✓	
	Sirloin Steak, Top Sirloin Steak	✓	✓	✓		✓	
	Tenderloin Steak	✓	✓	✓		✓	
	Top Loin (Strip) Steak	✓	✓	✓		✓	
	Tri-Tip Steak	✓	✓	✓		✓	
Less Tender Steaks	Chuck Shoulder Steak, Boneless	*	*			*	✓
	Chuck Arm Steak						✓
	Chuck 7-Bone Steak		*			*	✓
	Cubed Steak	✓		✓			✓
	Eye Round Steak	*				*	✓
	Flank Steak		*	✓		*	✓
	Round (Sirloin) Tip Side Steak	*	*	✓		*	
	Round Steak						✓
	Skirt Steak	*	*			*	✓
	Top Round Steak	*	*	✓		*	
Roasts	Eye Round Roast				*		*
	Rib Roast, Ribeye Roast				✓	✓	
	Round (Sirloin) Tip Center Roast				✓		
	Round Tip Roast				*		*
	Shoulder Tender Petite Roast	✓	✓		✓	✓	
	Tenderloin Roast, Top Loin Roast				✓	✓	
	Tri-Tip Roast				✓	✓	
Pot Roasts	Brisket, Corned Beef Brisket						✓
	Chuck Pot Roast (such as Arm, Blade or Shoulder)						✓
Other	Ground Beef	✓	✓	✓	✓	✓	✓
	Beef for Stir-Fry			✓			
	Beef for Kabobs		✓			✓	
	Beef for Stew						✓
	Shank Cross Cuts						✓
	Chuck Short Ribs						✓

** Require tenderizing, see marinades on our site:*
http://www.BeefItsWhatsForDinner.com/aboutbeef/marinades.asp

COOKERY TIME CHARTS

Stove-Top Skillet Cooking (Pan Broiling, Sautéing)

1. Heat heavy non-stick skillet over medium heat for 5 minutes.
2. Season beef straight from the refrigerator with herbs or spices, as desired. Place in preheated skillet. Do not overcrowd. Do not add water; do not cover.
3. Cook according to timetable below, turning once. (For cuts 1 inch thick or thicker, turn occasionally.) Remove excess drippings from skillet as they accumulate. After cooking, season beef with salt, if desired.

Beef Cut	**Thickness**	**Approx. Total Cooking Time Over Medium Heat** *(medium rare to medium doneness)*
Rib Eye Steak	**3/4 inch** **1 inch**	**8 to 10 minutes** **12 to 15 minutes**
Porterhouse/T-Bone Steak	**3/4 inch** **1 inch**	**11 to 13 minutes** **14 to 17 minutes**
Top Loin Strip Steak, *boneless*	**3/4 inch** **1 inch**	**10 to 12 minutes** **12 to 15 minutes**
Tenderloin Steak ******Use medium-high heat for 1/2-inch thick steak.*	**1/2 inch** **3/4 inch** **1 inch**	**3-1/2 to 5-1/2 minutes** **7 to 9 minutes** **10 to 13 minutes**
Top Sirloin Steak, *boneless*	**3/4 inch** **1 inch**	**10 to 13 minutes** **15 to 20 minutes**
Top Round Steak *(marinate)* *Recommended cooking to medium rare only*	**3/4 inch** **1 inch**	**11 to 12 minutes** **15 to 16 minutes**
Eye Round Tip	**1/2 inch**	**2 to 4 minutes**
Round Tip Steak	**1/8 to 1/4 inch**	**1 to 2 minutes**
Chuck Eye Steak, *boneless*	**3/4 inch** **1 inch**	**9 to 11 minutes** **12 to 15 minutes**
Chuck Top Blade Steak, *boneless*	**3/4 inch** **1 inch**	**10 to 12 minutes** **13 to 17 minutes**
Cubed Steak Use medium-high heat	**N/A**	**3 to 4 minutes**
Ground Beef Patties Cook to medium (160° F) doneness; see Determining Doneness	**1/2 x 4 inches (4 per pound)** **3/4 x 4 inches (4 per 1-1/2 pounds)**	**10 to 12 minutes** **12 to 15 minutes**

- ***All cooking times are based on beef removed directly from refrigerator.***

Oven Broiling

1. Set oven regulator for broiling; preheat for 10 minutes. During broiling the door of electric oven should be left ajar; the door of gas oven should remain closed. (However, consult your owner's manual for specific broiling guidelines.)
2. Place beef on rack of broiler pan. Season beef straight from the refrigerator with herbs or spices, as desired. Position broiler pan so that surface of beef is within the distance from heat specified in timetable below.
3. Broil according to timetable, turning once. After cooking, season beef with salt, if desired.

Beef Cut	**Thickness/ Weight**	**Distance From Heat**	**Approx. Total Cooking Time Over Medium Heat** *(medium rare to medium doneness)*
Rib Eye Steak	**3/4 inch** **1 inch** **1-1/2 inches**	**2 to 3 inches** **3 to 4 inches** **3 to 4 inches**	**8 to 10 minutes** **14 to 18 minutes** **21 to 27 minutes**
Rib Steak, *small end*	**3/4 inches** **1 inch** **1-1/2 inches**	**2 to 3 inches** **3 to 4 inches** **3 to 4 inches**	**9 to 12 minutes** **13 to 17 minutes** **24 to 31 minutes**
Porterhouse/T-Bone Steak	**3/4 inch** **1 inch** **1-1/2 inches**	**2 to 3 inches** **3 to 4 inches** **3 to 4 inches**	**10 to 13 minutes** **15 to 20 minutes** **27 to 32 minutes**
Top Loin Strip Steak, *boneless*	**3/4 inch** **1 inch** **1-1/2 inches**	**2 to 3 inches** **3 to 4 inches** **3 to 4 inches**	**9 to 11 minutes** **13 to 17 minutes** **19 to 23 minutes**
Tenderloin Steak	**1 inch** **1-1/2 inches**	**2 to 3 inches** **3 to 4 inches**	**13 to 16 minutes** **18 to 22 minutes**
Top Sirloin Steak, *boneless* **Turn occasionally as needed during cooking.*	**3/4 inch** **1 inch** **1-1/2 inches** **2 inches**	**2 to 3 inches** **3 to 4 inches** **3 to 4 inches** **3 to 4 inches**	**9 to 12 minutes** **16 to 21 minutes** **26 to 31 minutes** **34 to 39 minutes**
Flank Steak *(marinate)*	**1-1/2 to 2 pounds**	**2 to 3 inches**	**13 to 18 minutes**
Top Round Steak *(marinate)* *Recommended cooking to medium rare (145° F) only*	**3/4 inch** **1 inch** **1-1/2 inches**	**2 to 3 inches** **2 to 3 inches** **3 to 4 inches**	**12 to 13 minutes** **17 to 18 minutes** **27 to 29 minutes**
Chuck Shoulder Steak, *boneless (marinate)*	**3/4 inch** **1 inch**	**2 to 3 inches** **3 to 4 inches**	**10 to 13 minutes** **16 to 21 minutes**

- ***All cooking times are based on beef removed directly from refrigerator.***

Oven Roasting

1. Heat oven to temperature specified in roasting timetable below.
2. Place roast (straight from refrigerator), fat side up, on rack in shallow roasting pan. Season roast before cooking, as desired. Insert ovenproof meat thermometer so tip is centered in thickest part of roast, not resting in fat or touching bone. Do not add water; do not cover.
3. Roast according to timetable. Transfer roast to carving board; tent loosely with foil. Let stand 15 to 20 minutes. (Internal temperature will continue to rise 5° F to 10° F to reach desired doneness and roast will be easier to carve.)

Beef Cut	Oven Temp. (pre-heated)	Weight	Approximate Total Cooking Time	Remove when internal temp. equals
Rib Eye Roast, small	**350° F**	**3 to 4 lb**	**Medium Rare:** **1-1/2 to 1-3/4 hours** **Medium:** **1-3/4 to 2 hours**	**135° F** **150° F**
		4 to 6 lb	**Medium Rare:** **1-3/4 to 2 hours** **Medium:** **2 to 2-1/2 hours**	**135° F** **150° F**
		6 to 8 lb	**Medium Rare:** **2 to 2-1/4** **Medium:** **2-1/2 to 2-3/4 hours**	**135° F** **150° F**
Rib Eye Roast, large	**350° F**	**3 to 4 lb**	**Medium Rare:** **1-3/4 to 2-1/4 hours** **Medium:** **2 to 2-1/2 hours**	**135° F** **150° F**
		4 to 6 lb	**Medium Rare:** **1-3/4 to 2-1/4 hours** **Medium:** **2-1/2 to 3 hours**	**135° F** **150° F**
		6 to 8 lb	**Medium Rare:** **1-1/4 to 2-1/2 hours** **Medium:** **2-3/4 to 3 hours**	**135° F** **150° F**
Rib Roast *(chine bone removed)*	**350° F**	**4 to 6 lb (2 ribs)**	**Medium Rare:** **1-3/4 to 2-1/4 hours** **Medium:** **2-1/4 to 2-3/4 hours**	**135° F** **150° F**
		6 to 8 lb (2 to 4 ribs)	**Medium Rare:** **2-1/4 to 2-1/2 hours** **Medium:** **2-3/4 to 3 hours**	**135° F** **150° F**
		8 to 10 lb (4 to 5 ribs)	**Medium Rare:** **2-1/2 to 3 hours** **Medium:** **3 to 3-1/2 hours**	**135° F** **150° F**

Tenderloin Roast	**425° F**	**2 to 3 lb (center cut)** **4 to 5 lb (whole)**	**Medium Rare: 35 to 40 minutes** **Medium: 45 to 50 minutes** **Medium Rare: 50 to 60 minutes** **Medium: 60 to 70 minutes**	**135° F** **150° F** **135° F** **150° F**
Tri-Tip Roast	**425° F**	**1-1/2 to 2 lb**	**Medium Rare: 30 to 40 minutes** **Medium: 40 to 45 minutes**	**135° F** **150° F**
Round Tip Roast	**325° F**	**3 to 4 lb** **4 to 6 lb** **6 to 8 lb**	**Medium Rare: 1-3/4 to 2 hours** **Medium: 2-1/4 to 2-1/2 hours** **Medium Rare: 2 to 2-1/2 hours** **Medium: 2-1/2 to 3 hours** **Medium Rare: 2-1/2 to 3 hours** **Medium: 3 to 3-1/2 hours**	**140° F** **155° F** **140° F** **155° F** **140° F** **155° F**
Rump Roast	**325° F**	**3 to 4 lb**	**Medium Rare: 1-1/2 to 2 hours**	**135° F**
Bottom Round Roast	**325° F**	**3 to 4 lb**	**Medium Rare: 1-1/2 to 2 hours**	**135° F**
Eye Round Roast	**325° F**	**2 to 3 lb**	**Medium Rare: 1-1/2 to 1-3/4 hours**	**135° F**
Meatloaf *Cook to medium (160° F doneness)*	**350° F**	**8 x 4 inches 1-1/2 lb**	**Medium: 1-1/4 hours**	**160° F**

- ***Medium rare doneness = 145° F final internal temperature after 15-20 minutes standing time.***
- ***Medium doneness = 160° F final internal temperature after 15-20 minutes standing time.***
- ***All cooking times are based on beef removed directly from refrigerator.***

Undercover Cooking (Braising, Pot Roasting, Stewing)

1. Remove beef from refrigerator. Lightly coat with seasoned flour, if desired. **Slowly brown** beef on all sides in small amount of oil in heavy pan. Pour off drippings. Season beef, as desired. *(Omit dredging and browning for corned beef brisket.)*

2. Add liquid, such as broth, water, juice, beer and/or wine, to pan. Bring to a boil; reduce heat.
   - For pot roasts and other braised dishes, such as Swiss steak, chilis and shredded beef, use small amount of liquid (1/2 to 2 cups).
   - For stews and soups, use at least enough liquid to cover beef.
   - Corned beef brisket is cooked in liquid to cover.

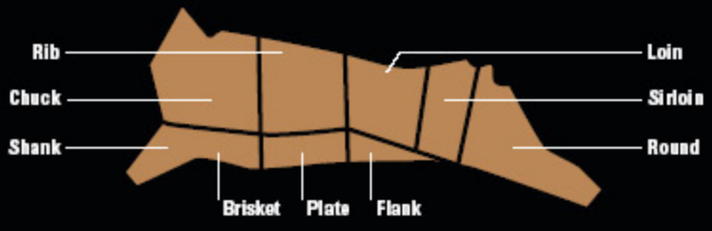
3. ***Cover tightly*** and ***simmer gently*** over low heat on top of the range, *or* in a preheated 325° F oven, according to timetable or until beef is fork-tender. *(It is not necessary to turn pot roast or steak over during cooking.)* Cooking liquid may be thickened or reduced, as desired.

Beef Cut	**Thickness/Weight**	**Approx. Total Cooking Time** *(covered over low heat)*
Chuck Pot Roast, *bonelessl* **(Arm, Shoulder or Blade)**	**2-1/2 to 4 lb**	**2 to 3 hours**
Chuck Shoulder Steak, *boneless*	**3/4 to 1 inch**	**1-1/4 to 1-3/4 hours**
Bottom Rump Roast	**3 to 4 lb**	**2-1/2 to 3-1/4 hours**
Round Steak, *Boneless* **(Eye or Bottom)**	**3/4 to 1 inch** **1 to 1-1/2 inches**	**1-1/4 to 1-3/4 hours** **1-3/4 to 2-1/2 hours**
Brisket, *fresh*	**2-1/2 to 4 lb**	**2-1/2 to 3 hours**
Beef Brisket, *Corned*	**2-1/2 to 3-1/2 lb** **3-1/2 to 5 lb**	**2-1/2 to 3-1/2 hours** **3-1/2 to 4-1/2 hours**
Beef or Stew	**1 to 1-1/2 = inch pieces**	**1-3/4 to 2-1/4 hours**
Shank Cross Cuts	**1 to 1-1/2 = inch thick pieces**	**2 to 3 hours**
Beef Short Ribs	**2 x 2 x 4 = inch pieces**	**1-1/2 to 2-1/2 hours**

- ***All cooking times are based on beef removed directly from refrigerator.***

Beef Made Easy®

Retail Beef Cuts and Recommended Cooking Methods



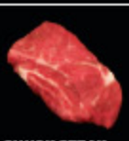
BEEF
IT'S WHAT'S FOR DINNER.®

BEEF
FUNDED BY AMERICA'S BEEF PRODUCERS

Chuck


CHUCK 7-BONE POT ROAST


CHUCK POT ROAST Boneless


CHUCK STEAK Boneless


CHUCK EYE STEAK Boneless


SHOULDER TOP BLADE STEAK


SHOULDER TOP BLADE STEAK Flat Iron


SHOULDER POT ROAST * Boneless


SHOULDER STEAK * Boneless


SHOULDER CENTER * Ranch Steak


SHOULDER PETITE TENDER *

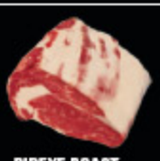

SHOULDER PETITE TENDER MEDALLIONS *


BONELESS SHORT RIBS

Rib


RIB ROAST


RIB STEAK


RIBEYE ROAST Boneless


RIBEYE STEAK Boneless


BACK RIBS

Loin


PORTERHOUSE STEAK


T-BONE STEAK *


TOP LOIN STEAK * Bone-in


TOP LOIN STEAK * Boneless


TENDERLOIN ROAST *


TENDERLOIN STEAK *

Sirloin


TRI-TIP ROAST *

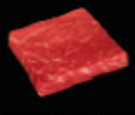

TRI-TIP STEAK *

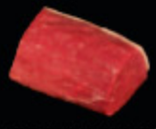

TOP SIRLOIN STEAK * Boneless

Round


TOP ROUND STEAK *


BOTTOM ROUND ROAST *


BOTTOM ROUND STEAK * Western Griller


EYE ROUND ROAST *


EYE ROUND STEAK *


ROUND TIP ROAST *


ROUND TIP STEAK *


SIRLOIN TIP CENTER ROAST *


SIRLOIN TIP CENTER STEAK *


SIRLOIN TIP SIDE STEAK *

Shank and Brisket


SHANK CROSS CUT *


BRISKET FLAT CUT *

Plate and Flank


SKIRT STEAK


FLANK STEAK *

Other


GROUND BEEF


CUBED STEAK


BEEF FOR STEW


BEEF FOR KABOBS

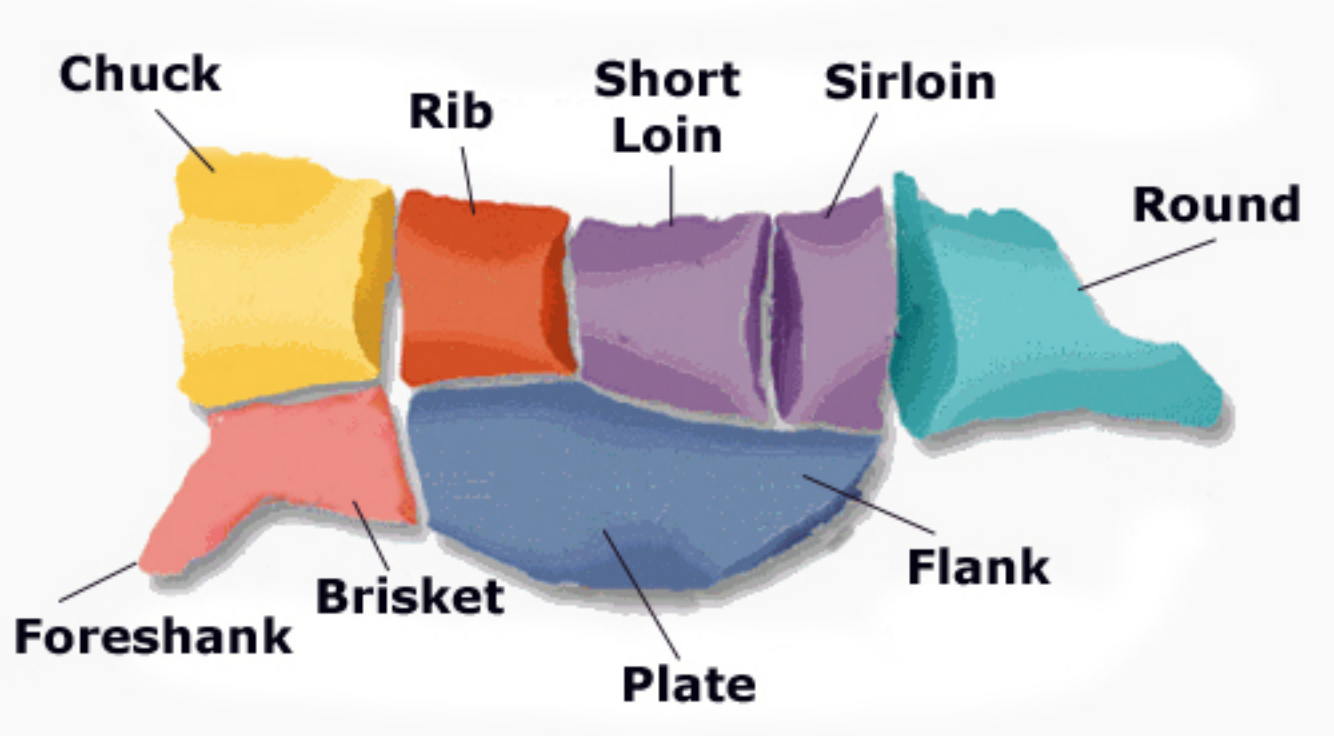

BEEF FOR STIR-FRY OR FAJITAS

Key to Recommended Cooking Methods

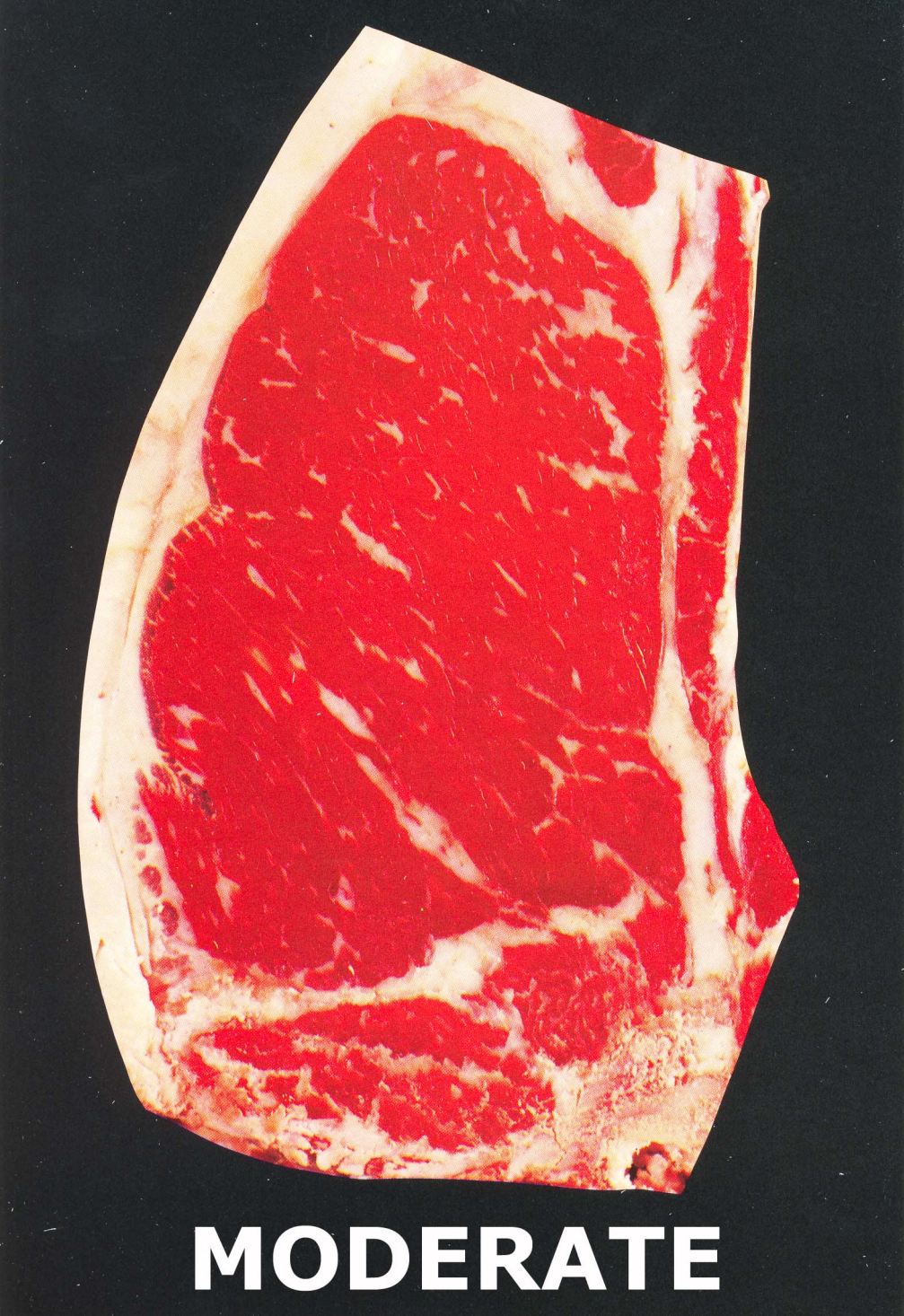
- Skillet
- Grill or Broil
- Marinate & Grill or Broil
- Stir-Fry
- Roast
- Stew
- Braise
- Pot Roast

* These cuts meet government guidelines for "lean" and are based on cooked servings with visible fat trimmed.

Lean is defined as less than 10 grams of total fat, 4.5 grams of saturated fat, and less than 95 milligrams of cholesterol per serving and per 100 grams (3.5 oz).

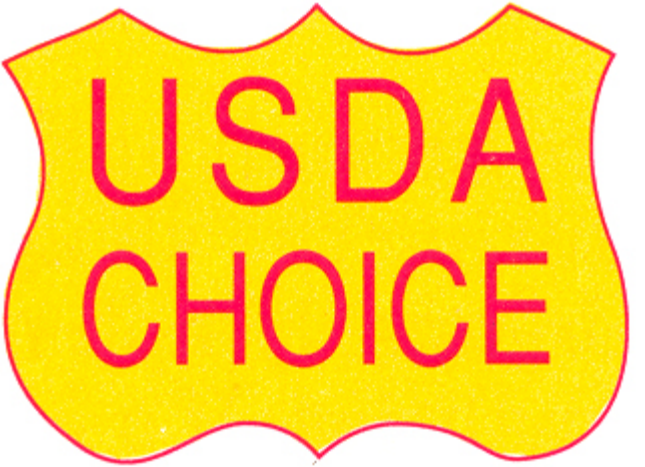

Chuck
Rib
Short Loin
Sirloin
Round
Foreshank
Brisket
Plate
Flank

SLIGHT

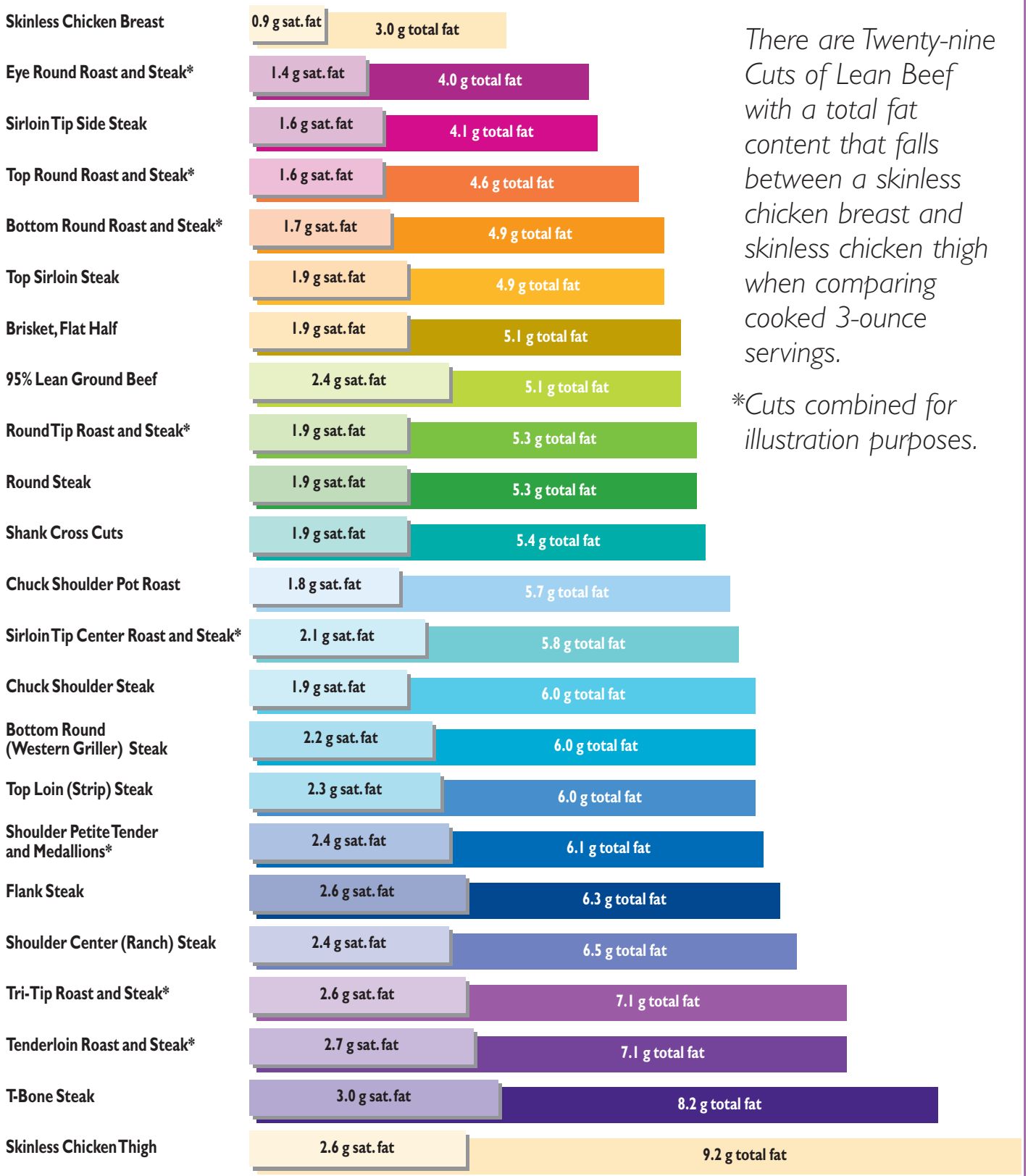

MODERATE

MODERATELY ABUNDANT

USDA INSPECTION STAMP


USDA
CHOICE

Twenty-nine Ways to Love Lean Beef



There are Twenty-nine Cuts of Lean Beef with a total fat content that falls between a skinless chicken breast and skinless chicken thigh when comparing cooked 3-ounce servings.

**Cuts combined for illustration purposes.*

Lean: less than 10 g of total fat, 4.5 g or less of saturated fat, and less than 95 mg of cholesterol per serving and per 100 grams.
Source: US Department of Agriculture, Agricultural Research Service, 2005. USDA Nutrient Database for Standard Reference, Release 18. Based on cooked servings, visible fat trimmed.

18-226A 90535

Nutrient Bang for Your Calorie Buck

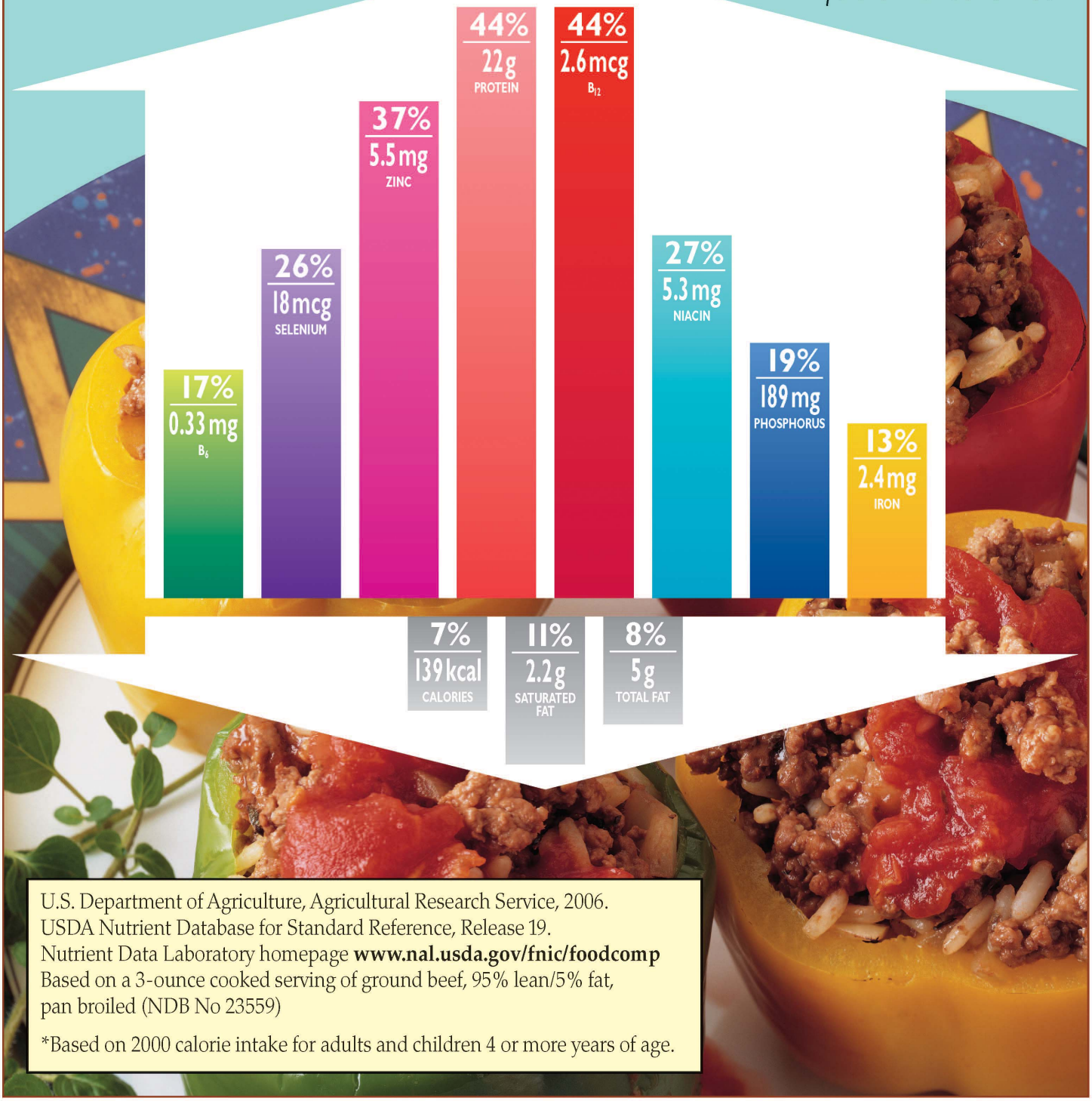
3-OUNCE COOKED SERVING	CALORIES	TOTAL FAT (g)	SAT. FAT (g)	CHOLESTEROL (mg)	PROTEIN (g)	IRON (mg)	ZINC (mg)	THIAMIN (mg)	RIBOFLAVIN (mg)	NIACIN (mg)	B_6 (mg)	PANTOTHENIC ACID (mg)	B_{12} (mcg)
BEEF													
Daily Value*	**2000**	**65**	**20**	**300**	**50**	**18**	**15**	**1.5**	**1.7**	**20**	**2**	**10**	**6**
Bottom Round Roast and Steak	139	4.9	1.7	64	23.8	2.0	4.1	0.05	0.13	4.3	0.3	0.5	1.3
95% Lean Ground Beef	139	5.1	2.4	65	21.9	2.4	5.5	0.04	0.15	5.3	0.3	0.5	2.6
Eye Round Roast and Steak	144	4.0	1.4	53	25.3	2.1	4.3	0.06	0.14	4.5	0.3	0.5	1.4
Sirloin Tip Side Steak	143	4.1	1.6	68	24.7	2.4	6.2	0.06	0.17	5.0	0.5	0.7	3.6
Chuck Shoulder Pot Roast	147	5.7	1.8	60	22.4	2.6	5.4	0.08	0.21	2.9	0.2	N/A	2.6
Round Tip Roast and Steak	148	5.3	1.9	75	23.4	2.0	4.0	0.05	0.13	4.2	0.3	0.5	1.3
Sirloin Tip Center Roast and Steak	150	5.8	2.1	65	23.1	2.1	5.8	0.05	0.18	4.4	0.4	0.6	2.7
Shoulder Petite Tender and Medallions	150	6.1	2.4	66	22.3	2.2	4.5	0.07	0.23	4.4	0.5	0.7	4.4
Round Steak	154	5.3	1.9	66	24.8	2.3	4.0	0.09	0.19	3.6	0.3	0.3	2.7
Bottom Round (Western Griller) Steak	155	6.0	2.2	65	23.4	2.5	4.3	0.06	0.18	6.4	0.6	0.7	3.4
Shoulder Center (Ranch) Steak	155	6.5	2.4	65	22.4	2.4	6.0	0.06	0.25	4.5	0.5	0.7	4.2
Top Sirloin Steak	156	4.9	1.9	49	26.0	1.7	4.9	0.07	0.13	7.4	0.6	0.5	1.5
Top Round Roast and Steak	157	4.6	1.6	61	27.1	2.3	4.7	0.06	0.15	4.9	0.4	0.5	1.5
Tri-Tip Roast and Steak	158	7.1	2.6	61	22.8	1.5	4.2	0.06	0.12	6.7	0.5	0.4	1.3
Flank Steak	158	6.3	2.6	42	23.7	1.5	4.3	0.07	0.12	6.8	0.5	0.5	1.4
Top Loin (Strip) Steak	161	6.0	2.3	56	24.9	1.6	4.6	0.07	0.13	7.1	0.5	0.5	1.4
Chuck Shoulder Steak	161	6.0	1.9	80	24.9	3.2	6.7	0.06	0.22	2.7	0.2	N/A	2.5
Brisket Flat Half	167	5.1	1.9	49	28.2	2.4	6.8	0.06	0.18	4.1	0.3	0.6	2.1
Tenderloin Roast and Steak	170	7.1	2.7	67	24.7	1.6	4.6	0.07	0.13	7.1	0.5	0.5	1.4
Shank Cross Cuts	171	5.4	1.9	66	28.6	3.3	8.9	0.12	0.18	5.0	0.3	0.3	3.2
T-Bone Steak	172	8.2	3.0	48	23.0	3.1	4.3	0.09	0.21	3.9	0.3	0.3	1.9
PORK													
Daily Value*	**2000**	**65**	**20**	**300**	**50**	**18**	**15**	**1.5**	**1.7**	**20**	**2**	**10**	**6**
Top Loin Chop	141	3.6	1.3	65	25.4	0.5	1.8	0.50	0.16	8.8	0.4	0.7	0.6
Tenderloin	159	5.4	1.9	80	25.9	1.2	2.5	0.84	0.33	4.4	0.4	0.8	0.9
Sirloin Chop	181	8.6	3.1	72	24.2	0.9	2.3	0.87	0.32	4.0	0.5	0.7	0.7
Rib Chop	186	8.3	2.9	69	26.2	0.7	2.0	0.95	0.28	5.2	0.4	0.6	0.7
POULTRY													
Daily Value*	**2000**	**65**	**20**	**300**	**50**	**18**	**15**	**1.5**	**1.7**	**20**	**2**	**10**	**6**
Skinless, Boneless Chicken Breast	140	3.0	0.9	72	26.4	0.9	0.9	0.06	0.10	11.7	0.5	0.8	0.3
Skinless, Boneless Turkey Breast	115	0.6	0.2	71	25.6	1.3	1.5	0.04	0.11	6.4	0.5	0.6	0.3
FISH													
Daily Value*	**2000**	**65**	**20**	**300**	**50**	**18**	**15**	**1.5**	**1.7**	**20**	**2**	**10**	**6**
Cod	89	0.7	0.1	47	19.4	0.4	0.5	0.08	0.07	2.1	0.2	0.2	0.9
Light Tuna Canned in Water	99	0.7	0.2	26	21.7	1.3	0.7	0.03	0.06	11.3	0.3	0.2	2.5
Halibut	119	2.5	0.4	35	22.7	0.9	0.5	0.06	0.08	6.1	0.3	0.3	1.2
Salmon	175	10.5	2.1	54	18.8	0.3	0.4	0.29	0.12	6.8	0.6	1.3	2.4

*Daily Value based on a 2000-calorie intake for adults and children 4 or more years of age. Source: USDA.

Naturally Nutrient-Rich Lean Ground Beef

There's a NEW view of ground beef.

Government data show 95% lean ground beef provides high percentages of the Daily Value of these essential nutrients and is also low in fat and calories.*



U.S. Department of Agriculture, Agricultural Research Service, 2006.
USDA Nutrient Database for Standard Reference, Release 19.
Nutrient Data Laboratory homepage **www.nal.usda.gov/fnic/foodcomp**
Based on a 3-ounce cooked serving of ground beef, 95% lean/5% fat, pan broiled (NDB No 23559)

*Based on 2000 calorie intake for adults and children 4 or more years of age.

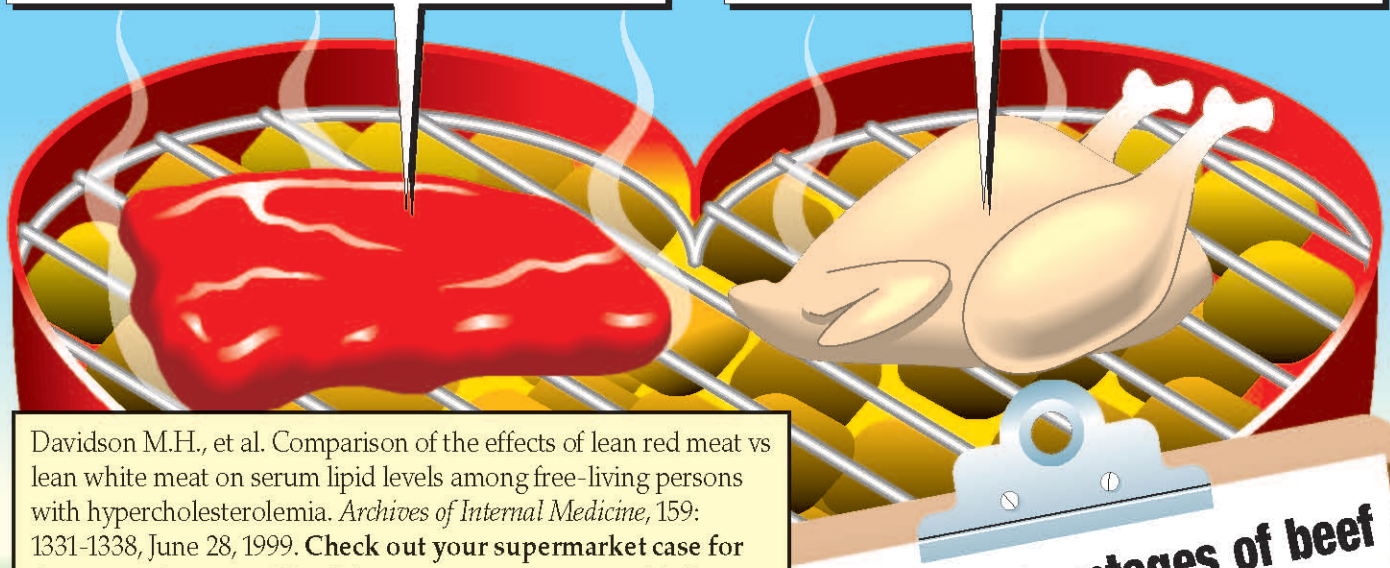
18-210/11 30715

Study Shows Beef can be Part of Heart-Healthy Diet

202 men and women participated in a 9-month clinical trial that showed lean red meat can be part of a cholesterol-lowering diet

Eye round steak	
3 oz. cooked, lean only	
Saturated fat	**1.2 grams**
Monounsaturated fat	**1.5 grams**
Polyunsaturated fat	**0.1 grams**

Chicken breast	
3 oz. cooked, skinless	
Saturated fat	**0.9 grams**
Monounsaturated fat	**1.0 grams**
Polyunsaturated fat	**0.7 grams**



Davidson M.H., et al. Comparison of the effects of lean red meat vs lean white meat on serum lipid levels among free-living persons with hypercholesterolemia. *Archives of Internal Medicine*, 159: 1331-1338, June 28, 1999. **Check out your supermarket case for these popular cuts of beef that meet government guidelines for "lean"** —T-bone, tenderloin, tri-tip, top sirloin, ranch steak, top loin (strip), 95% lean ground beef, flat half brisket, flank, petite tender and medallions, western griller steak, chuck shoulder steak, sirloin tip center, shoulder pot roast, shank cross cuts, round steak, round tip, bottom round, top round, sirloin tip side steak and eye round. Source: U.S. Department of Agriculture, Agricultural Research Service, 2006. USDA Nutrient Database for Standard Reference, Release 19, **www.nal.usda.gov/fnic/foodcomp**. Data based on 3-ounce cooked servings of average of 29 lean cuts of beef and skinless chicken breast.

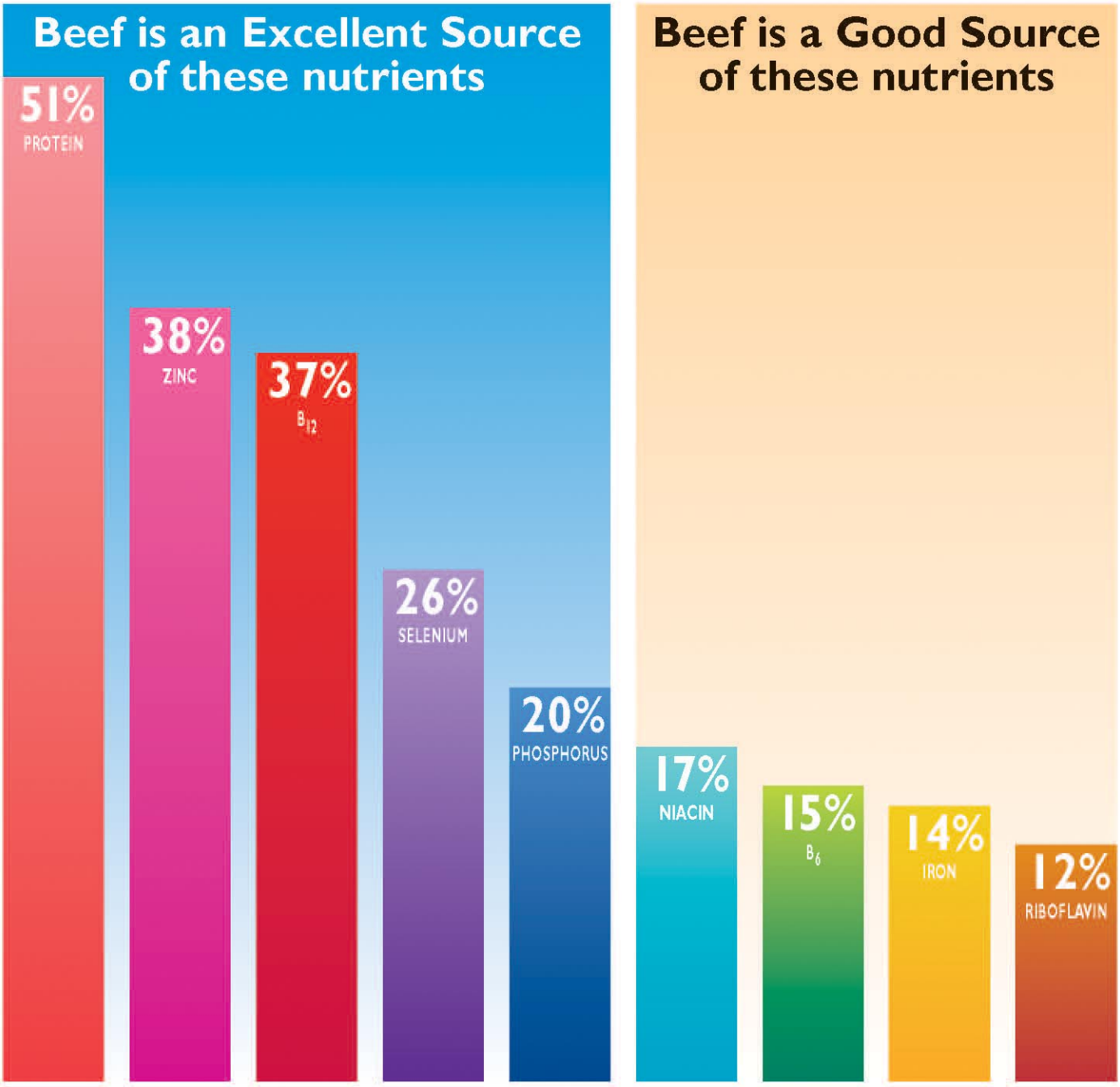
Nutrient Advantages of beef

Average 3-oz. cooked serving of 29 lean beef cuts compared to 3-oz. skinless chicken breast

B_{12}	~**7 1/2** chicken breasts
Zinc	~**6** chicken breasts
Iron	~**3** chicken breasts

Choose Your Calories by the Company They Keep

A 3-ounce serving of lean beef (179 calories) contributes less than 10 percent of calories to a 2,000-calorie diet, yet it supplies more than 10 percent of the Daily Value for:



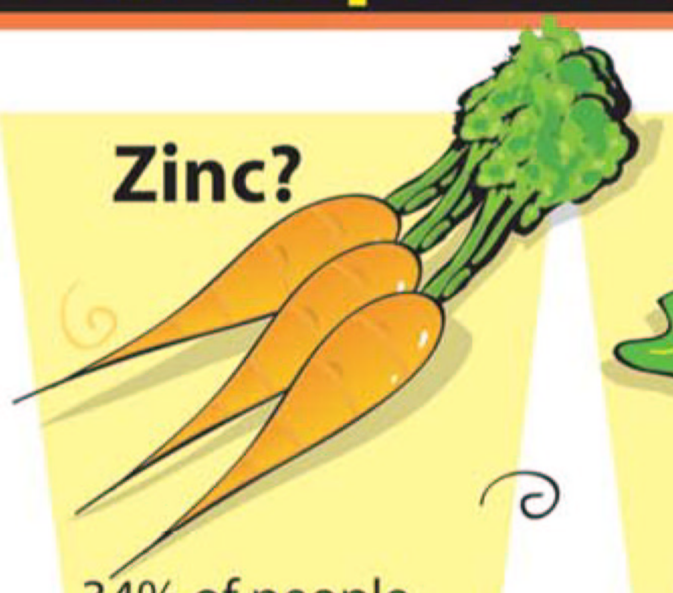
U.S. Department of Agriculture, Agricultural Research Service, 2006.
USDA Nutrient Database for Standard Reference, Release 19.
Nutrient Data Laboratory homepage **www.nal.usda.gov/fnic/foodcomp**

What's Your Nutrition IQ?

Perceptions

A recent survey asked consumers which foods are the best sources of Zinc, Iron, Protein and B-Vitamins.

Zinc?



34% of people said carrots...

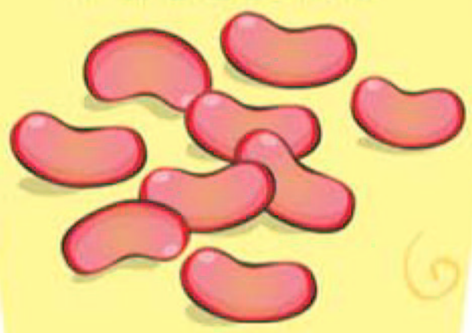
While 4% said beef.

Iron?

63% of people said spinach...

While 19% said beef.

Protein?



34% of people said kidney beans...

While 31% said beef.

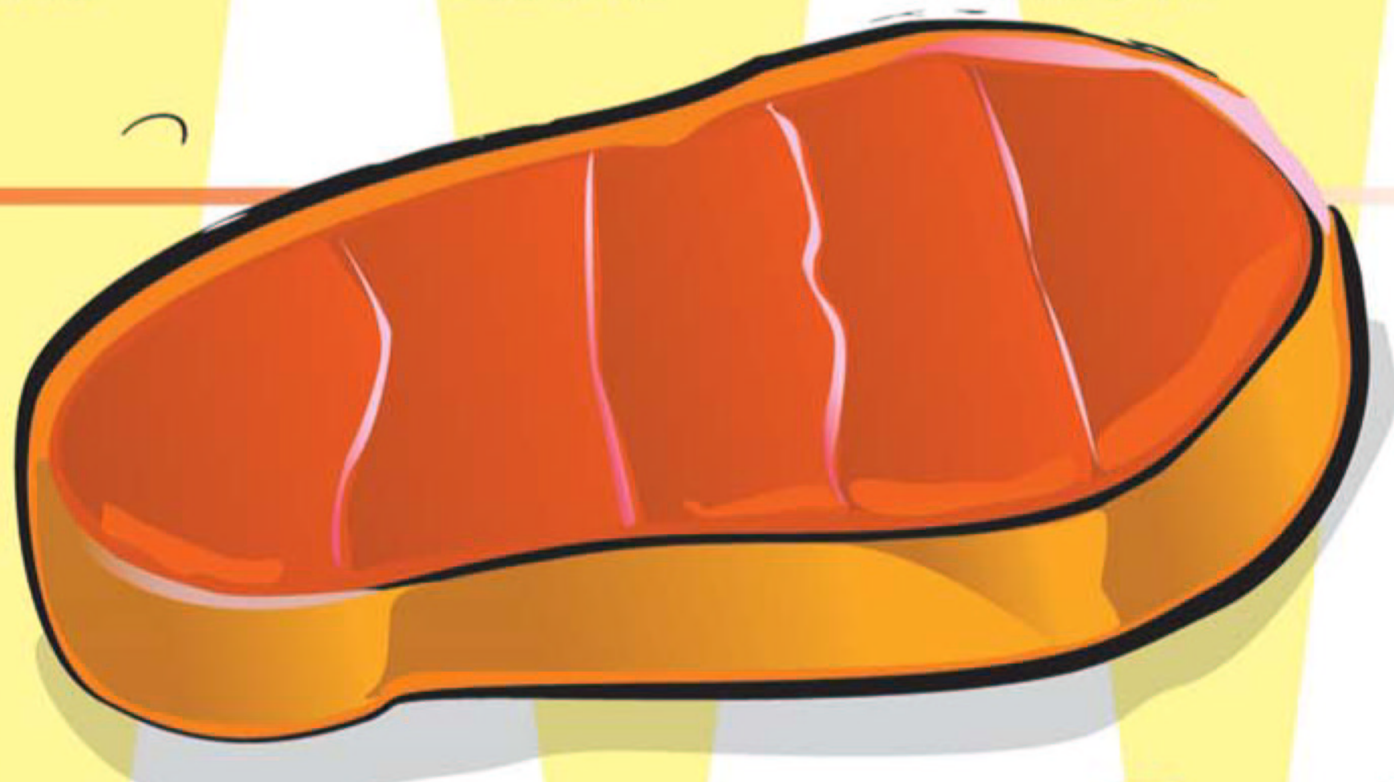
B-Vitamins?

71% of people said broccoli...

While 9% said beef.

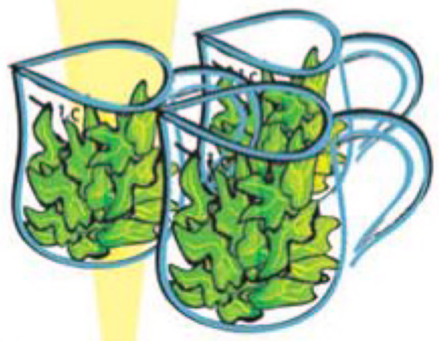
Reality

One **3-oz.** serving of *Lean* BEEF

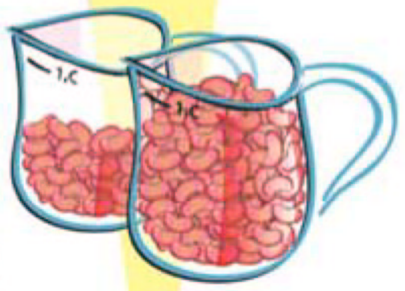


has the same amount of...

Zinc as 10 cups of sliced cooked carrots



Iron as 3 cups of spinach



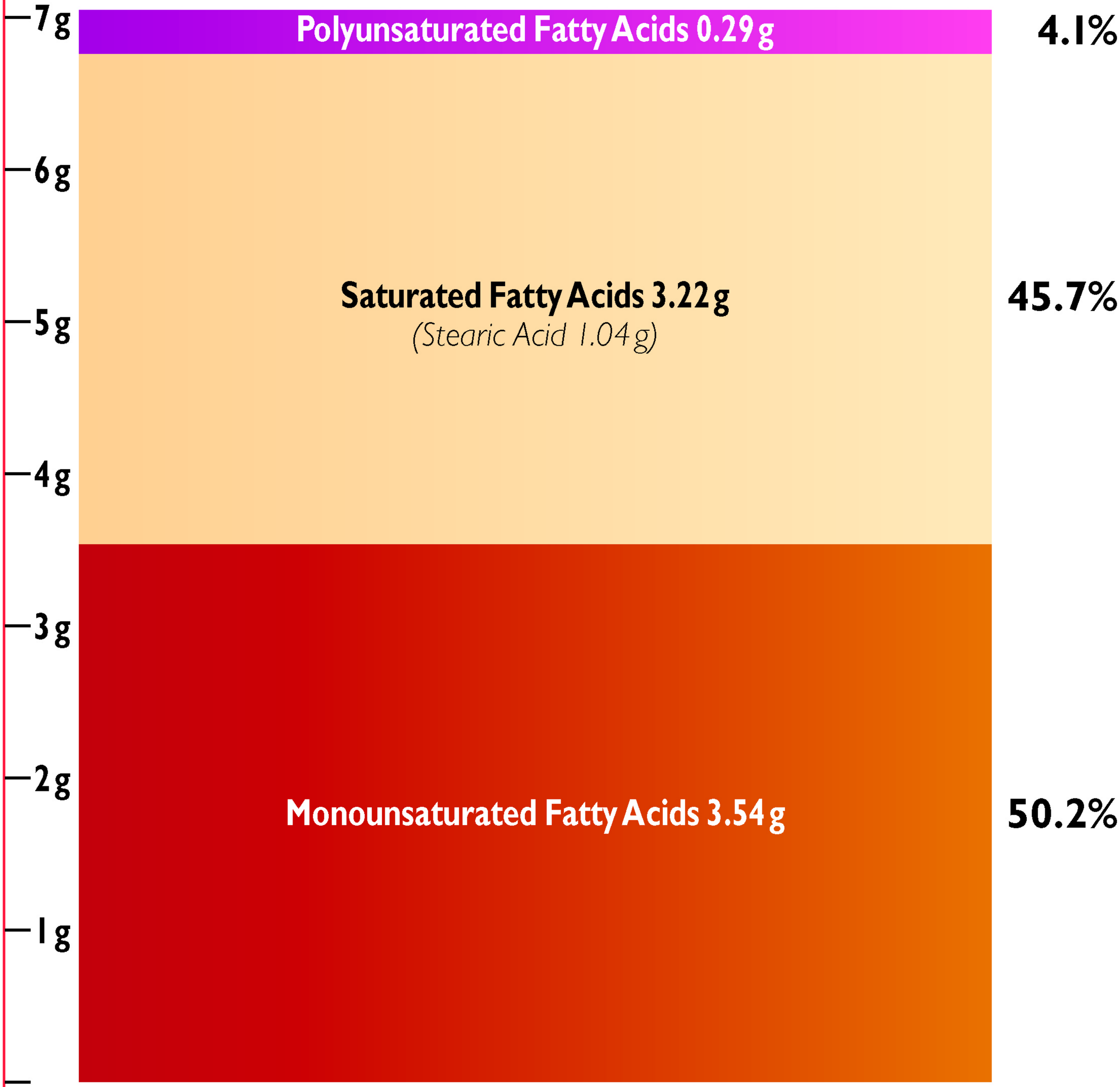
Protein as 1-1/2 cups of cooked kidney beans

While broccoli is a good source of folate, it contains virtually no other B vitamins. Beef is an excellent source of vitamin B_{12}, vitamin B_6 and niacin, and a good source of riboflavin.

U.S. Department of Agriculture, Agricultural Research Service, 2005. USDA Nutrient Database for Standard Reference, Release 18. www.nal.usda.gov/fnic/foodcomp.
Based on a 3-ounce cooked serving of beef (average of 29 lean cuts), separable lean only, all grades, cooked.

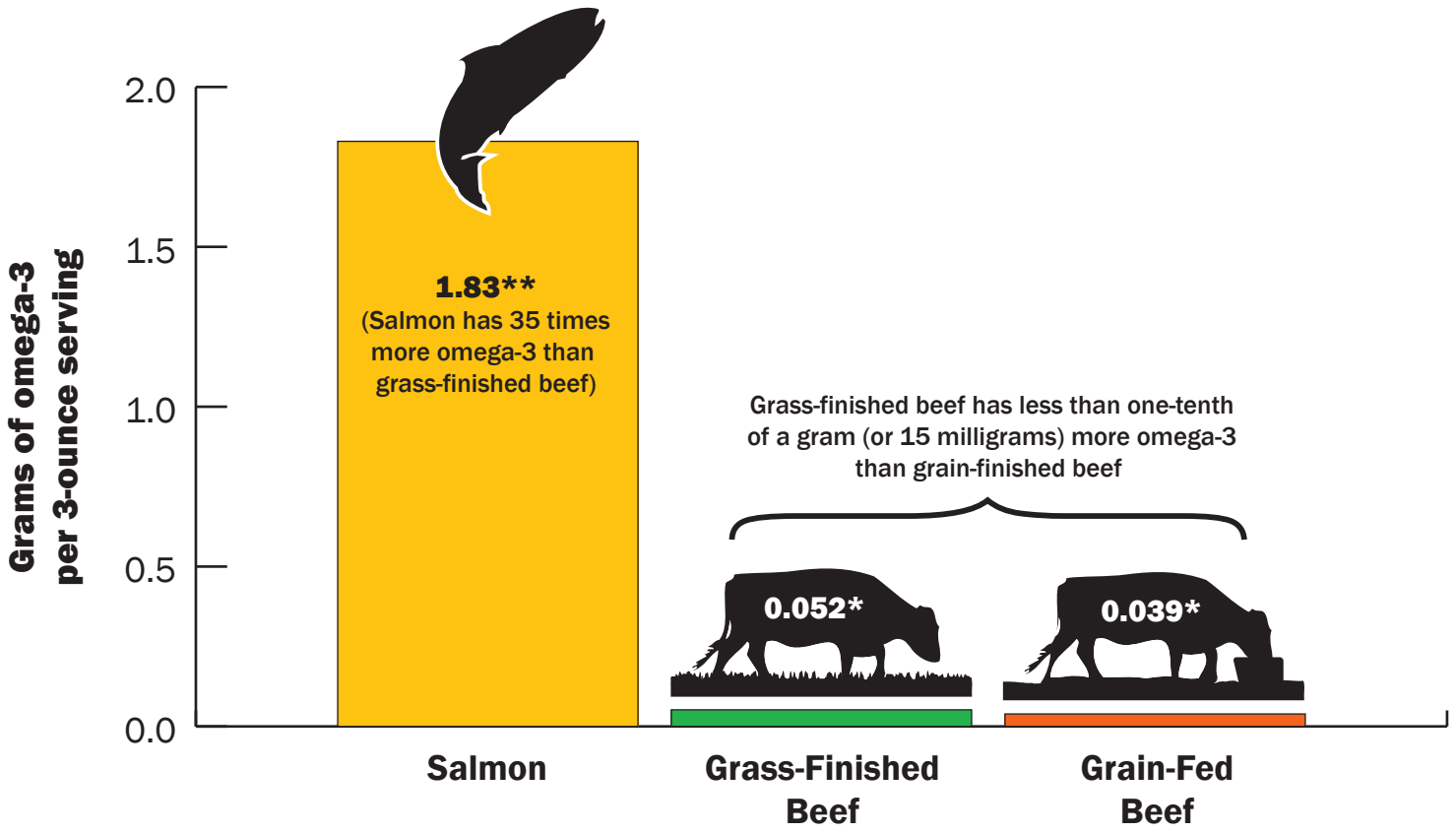
Fatty Acid Profile of Beef

85 g (3 oz) Portion, Lean-only, Cooked
Total Fatty Acids—7.05 g



Based on 3-ounce cooked serving, composite of trimmed retail cuts, all grades, 1/4" trim, separable lean only.
U.S. Department of Agriculture, Agricultural Research Service, 2002. USDA Nutrient Database for Standard Reference, Release 15. Nutrient Data Laboratory homepage **www.nal.usda.gov/fnic/foodcomp**

Amount of Omega-3 in Types of Beef Compared to Salmon



* "Fatty acid analysis of wild ruminant tissues: evolutionary implications for reducing diet-related chronic disease," European Journal of Clinical Nutrition, 2002

** American Heart Association, “Fish, Levels of Mercury and Omega-3 Fatty Acids,” www.americanheart.org, Aug. 25, 2003.

Beef's Competitive Advantage

ZINC 3-ounce lean beef = 13½ (3-ounce) servings of salmon

154 calories — 2,363 calories

Vitamin B_{12} 3-ounce lean beef = 7½ (3-ounce) skinless chicken breasts

154 calories — 1,050 calories

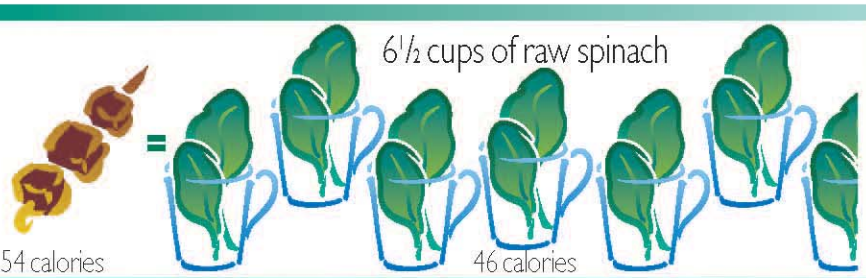
IRON 3-ounce lean beef = 2¾ cups of raw spinach

154 calories — 19 calories

RIBOFLAVIN 3-ounce lean beef = 4½ (3-ounce) servings of white tuna meat

154 calories — 491 calories

Vitamin B_6 3-ounce lean beef = 6½ cups of raw spinach



154 calories — 46 calories

Source: U.S. Department of Agriculture, Agricultural Research Service, 2006. USDA Nutrient Database for Standard Reference, Release 19. Based on a cooked serving of beef, visible fat trimmed, the average of the 29 cuts of beef which meet government guidelines for "lean."